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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,612	12/21/2001	R. Brantley Sudderth	M 5962A OS/MIN	6086

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COGNIS CORPORATION  
PATENT DEPARTMENT  
300 BROOKSIDE AVENUE  
AMBLER, PA 19002

EXAMINER

ANTHONY. JOSEPH DAVID

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

66

<b>Office Action Summary</b>	<b>Application No.</b> 10/029,612	<b>Applicant(s)</b> SUDDERTH ET AL.	
	<b>Examiner</b> Joseph D. Anthony	<b>Art Unit</b> 1714	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

*72*

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. U.S. Patent Number 4,350,667 or Scher U.S. Patent Number 4,500,494 or Applicant's admission on page 4, line 31 to page 5, line 13 of the current specification, all said citations individual in view of applicant's admission in the Declaration Filed Under 37 CFR 1.132 on 04/12/2001 in the Parent Application S.N. 08/953,373 now abandoned.

Andersson et al discloses that copper can be extracted from an ammoniacal copper solution by contacting said solution with an organic phase containing a first extraction reagent consisting of a beta-diketone as well as a second extraction reagent consisting of a hydroxyl oxime, a hydroxy quinoline, or an alkylaryl sulphonamido quinoline. Alternatively, the copper solution can first be contacted with an organic phase containing the first extraction agent, and subsequently be contacted with an organic phase containing the second extraction reagent. It is possible to reach a low percentage of copper in the aqueous solution by using a low number of extraction steps, see abstract. The

Art Unit: 1714

concentration of the hydroxyl oxime extractant (e.g. a hydroxy aryl ketoxime, such as 2-hydroxy-5-nonylbenzophenone oxime sold as LIX 65N) can be within 40-70% by weight of the organic water-immiscible solvent (e.g. kerosene), see column 3, lines 1-20 and column 4, lines 7-9.

Scher discloses novel polyurea and urea-formaldehyde microcapsules are disclosed which enclose a chelating agent selected from .beta.-diketones, 8-hydroxyquinolines and their thiol analogs, and oximes. The microcapsules are capable of removing metal ions from water, see abstract. The discloses oximes can be selected from hydroxyl aryl aldioximes and hydroxyl aryl ketoximes, see column 4, lines 9-29. The said oxime chelating agent can be used in combination with a water-immiscible hydrocarbon solvent, see column 4, line 61 to column 5, line 11. The concentration of the chelating agent to solvent is within the range of about 5% to about 70% by weight, see column 5, lines 60-68.

Applicant's admits on page 4, line 31 to page 5, line 13 of the current specification that it is known in the trade that: "... the phenolic oxime extractant in hydrocarbon solvent solutions were supplied to the operations in conventional 200 liter drum containers at approximately 1.5 to 1.8 molar (an oxime content by weight of about 48-61% depending on the particular oxime and its molecular weight) ...".

All said three primary references differ from applicant's claimed invention in that they do not disclose applicant's claimed limitation of wherein the hydroxyl aryl oxime extractant in a water-immiscible hydrocarbon solvent at a

concentration of about 55-85% by weight is contained "in a single container having a volume of from about 250 liters up to about 50,000 liters thereby maintaining the temperature with the container in an acceptable range as defined by accelerating rate calorimetry".

Applicant's admits in section 11 of the Declaration Filed Under 37 CFR 1.132 on 04/12/2001 in the Parent Application S.N. 08/953,373 now abandoned, that large containers in which to supply the product (i.e. oxime extractants) have been developed. One such container is commonly referred to as an "isotainer" designed for truck or rail beds transportation and can hold about 20,000 liters of material. Another container is a liquid individual bulk container (LIBC) which holds about 1000 liters.

It would have been obvious to one having ordinary skill in the art to use applicant's direct admission in section 11 of the Declaration Filed Under 37 CFR 1.132 on 04/12/2001 in the Parent Application S.N. 08/953,373 now abandoned, that large containers have been developed to supply the product (i.e. oxime extractants) as strong motivation to actually use such large containers as storage and transportation containers for the highly concentrated hydroxyl aryl oxime extracts in water-immiscible hydrocarbon solvents as taught by the three primary references. The use of large containers over smaller containers would save shipping cost, storage cost and application time since the time and effort needed to move and store and empty one larger container is less than that needed to move and store and empty many drums that have a combined equivalent volume

of extractant composition. While it is true that none of the primary references speaks to the issue of autocatalytic decomposition of the concentrated oxime composition in large containers, such is not deemed to render applicant's claims patentable over the above combinations of references when the concentration of hydroxyl aryl oxime extractant in the hydrocarbon solvent is less than about 70% by weight since such concentration are disclosed by the above prior-art. While applicant may have been the first to recognized that "accelerating rate calorimetry" can be used to mathematically plot the critical no return autocatalytic decomposition temperatures, such an insight does not render applicant's claimed process of making and claimed article patentable. The courts have constantly declared that the recognition of a problem is not the only factor in overcoming obviousness rejections. An invention may be obvious if the prior-art has different reasons for doing what applicant has done. "It has long been held that a rejection under 35 UDC 103 is not deficient solely because it is based upon a reason or technical consideration which is different from that which resulted in the claimed invention", se Ex parte Raychem corp. 17 USPQ 2d 1424 (BPAI 1990).

3. Claims 4 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. U.S. Patent Number 4,350,667 or Scher U.S. Patent Number 4,500,494 or Applicant's admission on page 4, line 31 to page 5, line 13 of the current specification, all said citations individual in view of applicant's admission in the Declaration Filed Under 37 CFR 1.132 on 04/12/2001 in the Parent Application S.N.

Art Unit: 1714

08/953,373 now abandoned; said combinations optional in view of Kordosky et al. U.S.

Patent Number 4,507,268

This rejection builds on the rejection made above and are deemed to be obvious over the above combination of references for the above reasons. In the alternative, the above rejections may be made optionally in view of Kordosky et al for their disclosure that admixtures of ketoximes and aldoximes within applicant's claimed ratio are known in the art, and that the addition of equilibrium modifiers are also well known in the art.

Kordosky et al. discloses that reagents formulated by admixture of selected hydroxyl aryl ketoxime and hydroxyl aryl aldoxime extractants provide for efficient recovery of metal values, especially copper values, by solvent extraction processes. Specified kinetic and equilibrium conditions, which would require use of predetermined quantities of kinetic additives if ketoximes alone were employed or predetermined quantities of equilibrium modifiers if aldoximes were employed, are secured through formulation of reagents including both ketoxime and aldoxime extractants with less than the predetermined quantities of kinetic additive or equilibrium modifier. Reagents employed in methods of the invention may include from 0 to about 20 mole percent of a kinetic additive based on ketoxime content and also optionally a modifier of extraction and stripping equilibria in an amount providing a degree of modification of the aldoxime constituent of from about 0.75 to 1.0 and preferably from about 0.90 to 1.0, see abstract. Kordosky et al directly teaches applicant's claimed ketoxime and

Art Unit: 1714

aldoxime species, and directly suggest use of admixtures of ketoxime and aldoxime within a weight ratio of 1:100 to 100:1, see column 6, line 30 to column 8, line 62, column 10, line 64 to column 11, line 2, column 11, line 59 to column 12, line 5, and column 12, line 57 to column 14, line 68.

It would have been obvious to one having ordinary skill in the art to use the directly disclosure of Kordosky et al. to the fact that admixtures of ketoximes and aldoximes, within applicant's claimed ratio of 1:100 to 100:1, are known in the art, and that the addition of equilibrium modifiers are also well known in the art, as strong motivation to actually used such admixtures of oximes and to add equilibrium modifiers to the oxime extractant solutions taught by the primary references.

#### ***Prior-Art Cited But Not Applied***

4. Any prior-art reference which is cited on FORM PTO-892 but not applied, is cited only to show the general state of the prior-art at the time of applicant's invention.

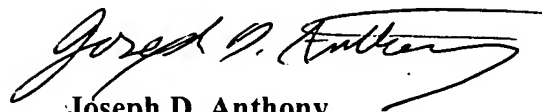
#### ***Examiner Information***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (703) 872-9306. All other papers received by FAX will be



Art Unit: 1714

treated as Official communications and cannot be immediately handled by the  
Examiner.

A handwritten signature in black ink, appearing to read "Joseph D. Anthony", with a stylized flourish extending from the end.

**Joseph D. Anthony**  
**Primary Patent Examiner**  
**Art Unit 1714**

3/21/05